

APPLICANTS: YONA, Zvi, et al.
SERIAL NO.: 09/818,575
FILED: March 28, 2001
Page 6

REMARKS

Applicants are grateful for the Examiner's time and efforts in conducting the interview of July 29, 2003 with Applicants' assignee and Applicants' representative.

Applicants have carefully studied the outstanding Office action, and are respectfully submitting this Amendment and accompanying remarks in an attempt to fully respond to each and every rejection and objection presented in the outstanding Office action.

Applicants respectfully submit that the pending claims are new, useful, and not obvious, and should therefore be allowed.

Status of Claims

Claims 1-32 are pending in the application.

Claims 1-23 have been rejected.

Claims 24-32 are being newly added with this amendment.

CLAIM OBJECTIONS

In the Office action, the Examiner objected to claims 1-23 because of informalities, including use of the phrases "a significant portion" and "substantially spatially continuous image" in claims 1, 10 and 19. The Examiner asserted that the terms were not clear.

With regard to the Examiner's objections to the words "significant" and "substantially", in light of the amendments to claims 1, 10 and 19, including the omission of the clauses containing the words "significant" and "substantially", it is respectfully asserted that the Examiner's objection is moot. Applicants respectfully assert that the amendment does not change the scope of the claims and that the amendment has not been made for purposes of patentability.

In view of the above, Applicants respectfully assert that the above claims are proper under 35 U.S.C. § 112 and request that the objections be withdrawn.

APPLICANTS: YONA, Zvi, et al.
SERIAL NO.: 09/818,575
FILED: March 28, 2001
Page 7

CLAIM REJECTIONS

35 U.S.C. § 112 Rejections

In the Office action, the Examiner rejected claims 6, 7, 9, 15, 16, and 18 under 35 U.S.C. § 112, first paragraph, due to non-compliance with the enablement requirement. 35 U.S.C. § 112, first paragraph, which is the basis for the enablement requirement states that “[t]he specification shall contain a written description of the invention, and of the manner and process of making an using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains . . . to make and use the same . . .” (emphasis added). Applicants respectfully assert, as demonstrated by the below comments and other disclosure of the specification that the claims are in fact enabled by the specification.

The Examiner pointed to two aspects of the invention as not enabled: (a) the redirector unit to redirect light based on wavelength or polarization and (b) the image source to generate images of different wavelength or polarization. Applicants traverse the rejection and respectfully state that every element of the claims is fully enabled by the disclosure such that one of ordinary skill in the art would be able to practice the invention.

First, the Examiner rejected the above claims on the grounds that the specification does not disclose how the redirecting unit is capable of “directing at least said first and second complementary images to a least first and second respective spatial regions of a reflecting unit.” The Examiner’s attention is respectfully directed to the exemplary embodiment of the invention depicted in Figures 4A and 4B and the accompanying explanatory text at pages 6-8.

As depicted in Figure 4A, redirector element 90 may be, for example, a controllable redirector, such as a mirror, to reflect the inbound image to the reflecting unit at two different angles. Thus, for example, in an time-integration embodiment of the device (e.g., where the image redirector receives different images at different times), when a first image 84 is accepted at the redirector 92, the controllable redirector 92 may be set to reflect the first image at a first angle along 84’ to first section of the reflecting unit 15, and when a second image 82 is accepted, the controllable redirector may be set to reflect the second image at a second angle along 82’ to second section of the reflecting unit 15.

APPLICANTS: YONA, Zvi, et al.
SERIAL NO.: 09/818,575
FILED: March 28, 2001
Page 8

As depicted in Figure 4B, redirector element 92 may be a device, for example a wedge with polarization-dependent reflective planes to reflect incoming images at different angles depending on the polarization of the image. Thus, for example, in a space-integration embodiment of the device (e.g., where the image redirector receives different images simultaneously), a first image 84 having first polarization S is accepted at the redirector 92, and is reflected at a first angle along 84' to a first section of the reflecting unit 15, a second image 82 having second polarization P is accepted at the redirector, and is reflected at a second angle along a 82' to a second section of reflecting unit 15.

Second, the Examiner rejected the above claims on the grounds that the specification does not disclose how the image source is capable of generating images of different wavelengths or of different polarization. The Examiner's attention is respectfully directed to the specification throughout, for example, at page 7, where it is stated that the image source "may be any type of display technology using P & S polarizers or LCD technology (such as from: Sony, Sharp, Kopin, MicroDisplay and others)." Moreover, it is known in the art to use a CRT to produce images having different colors (i.e., wavelengths) or an LCD display to produce an image of a certain polarization.

Based on the above, Applicants respectfully assert that claims 6, 7, 9, 15, and 18 are enabled based on the specification of the Application, and request that the Examiner's rejection of the above claims be withdrawn.

35 U.S.C. § 103 Rejections

Rejection over Morishima

In the Office action, the Examiner rejected claims 1-6, 10-15, and 19-23 under 35 U.S.C. § 103(a), as being unpatentable over Morishima, et al. (PN. 5,589,956). The Examiner claimed that Morishima contains all the limitations of the claims with the exception that it does not teach use of a relay optics, and that using a relay optics as claimed would have been obvious to one skilled in the art. As explained in the Interview of July 29, 2003, the present claims are patentable from Morishima, either alone or in combination with any other reference.

APPLICANTS: YONA, Zvi, et al.
SERIAL NO.: 09/818,575
FILED: March 28, 2001
Page 9

Applicants respectfully traverse the rejection of claims 1, 10 and 19 based on Morishima because a prima facie case of obviousness has not been established. Morishima does not disclose either explicitly or implicitly all of the elements of claims 1, 10 and 19 of the present Application except for the relay optics.

Morishima describes a device wherein "two LCDs 1-1 and 1-2 [of Fig. 10] are arranged. A reflection type HOE 2a is constituted by connecting two different elementary HOEs 2a-1 and 2a-2." (col. 9 lines 27-30). Furthermore, Morishima describes directing the images along separate paths to their separate ultimate destinations. Thus, Morishima does not disclose, teach, suggest or imply an image source to produce at least first and second complementary images, as recited in the claims. Nor would it have been obvious to one of ordinary skill in the art to modify Morishima to produce at least first and second complementary images, as recited in the claims.

Rejection over Iba

The Examiner rejected claims 1, 7, 9, 10, 16, and 18 under 35 U.S.C. § 103(a), as being unpatentable over Iba, et al. (PN. 5,982,343). The Examiner claimed that Iba contains all the limitations of the claims with the exception that it does not teach use of a relay optics, and that using a relay optics as claimed would have been obvious to one skilled in the art. As explained in the Interview of July 29, 2003, the present claims are patentable from Iba, either alone or in combination with any other reference.

Applicants respectfully traverse the rejection of claims 1 and 10 based on Iba because a prima facie case of obviousness has not been established. Iba does not disclose either explicitly or implicitly all of the elements of claims 1 and 10 of the present Application except for the relay optics.

Iba describes "a pair of two-dimensional display devices 4 and 5 [of Fig. 1(a)] which are disposed with their display surfaces facing each other, and two half-mirrors 6 and 7 which are paired with the display devices 4 and 5 ..." (col. 4 lines 32-36). Furthermore, Iba describes directing the images along separate paths to their separate ultimate destinations. Thus, Iba does not disclose, teach or suggest an image source to produce at least first and second complementary images, as recited in the claims. Nor would it have been obvious to

APPLICANTS: YONA, Zvi, et al.
SERIAL NO.: 09/818,575
FILED: March 28, 2001
Page 10

one of ordinary skill in the art to modify Iba to produce at least first and second complementary images, as recited in the claims.

Rejection over Florence

The Examiner further rejected claims 1, 8, 10, and 17 under 35 U.S.C. § 103(a) as being unpatentable over Florence, et al. (PN. 5,652,666). The Examiner claimed that Florence contains all the limitations of the claims with the exception that it does not teach use of a reflecting unit as the means for forming the integrated image, and that using a reflecting unit as the means for forming the integrated image as claimed would have been obvious to one skilled in the art.

Applicants respectfully traverse the rejection of claims 1 and 10 based on Florence because a prima facie case of obviousness has not been established. Florence does not disclose all of the elements of claims 1 and 10 of the present Application except for a reflecting unit as the means for forming the integrated image.

Florence describes a digital micro-mirror device (DMD) 14 (or other spatial light modulator (SLM)) to produce a single image. This entire single image is then relayed continuously vertical strip by vertical strip using relay optics 41-43 and a scanning mirror 45, and then to an image plane 46. (See col. 5 lines 3-13, Fig. 4). Thus, in Florence an entire image is produced by an image source, but only portions of it are viewed at the image plane in a scanning action. The DMD disclosed by Florence does not "produce at least first and second complementary images", as recited in claims 1 and 10; rather, the DMD produces an entire image, which it then continuously relayed in its component images. Moreover, the Examiner does not assert that the teaching of Florence suggests to modify the device disclosed therein to include an image source to "produce at least first and second complementary images."

CLARIFYING AMENDMENTS

In addition, while such amendment is not required for patentability, Applicants have amended the claims for clarification. Applicants respectfully state that the amendments do not add new matter. Below are some examples of such amendments.

APPLICANTS: YONA, Zvi, et al.
SERIAL NO.: 09/818,575
FILED: March 28, 2001
Page 11

Claims 1, 10, and 19 are now clarified to recite producing the images "along a common optical axis".

Claims 1, 10, and 19 are also amended to clarify that the first and second images are complementary.

Claims 1 and 10 are further amended to clarify that the field of view of the integrated image is wider than the field of view of the relay optic.

Claims 19 is amended to clarify that the field of view of the integrated image is wider than the any of the fields of view associated with the first and second complementary images.

Additionally, in claims 9 and 18, "controlled polarized reflection device" has been replaced with "polarization selective reflective device" for clarity.

CONCLUSION

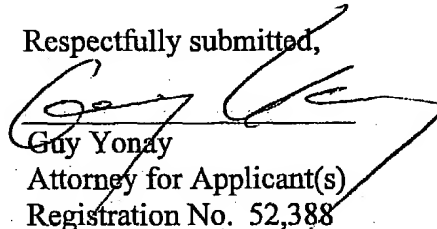
In view of the foregoing remarks and proposed amendments, all pending claims are deemed to be allowable. Their favorable reconsideration and allowance is respectfully requested.

APPLICANTS: YONA, Zvi, et al.
SERIAL NO.: 09/818,575
FILED: March 28, 2001
Page 12

Should the Examiner have any question or comment as to this proposed Amendment and accompanying remarks, the Examiner is invited to contact the undersigned at the telephone number below. Similarly, if there are any further issues yet to be resolved to advance the prosecution of this application to issue, the Examiner is requested to telephone the undersigned counsel.

The undersigned hereby authorizes the United States Patent and Trademark Office to charge the fees due under 37 C.F.R. §1.16(c) and any other fees deemed to be due for entry of this Amendment to Deposit Account 05-0649.

Respectfully submitted,



Guy Yonay
Attorney for Applicant(s)
Registration No. 52,388

Dated: July 31, 2003

Eitan, Pearl, Latzer & Cohen Zedek, LLP.
10 Rockefeller Plaza, Suite 1001
New York, New York 10020
Tel: (212) 632-3480
Fax: (212) 632-3490